AMENDMENT TO THE CLAIMS

Claims 2, 4, 6-9, 23-24, and 27-28 are currently amended to clarify the claimed invention as embodied in these claims, without acquiescence in the cited basis for rejection or prejudice to pursue the original claims in a related application. A complete listing of the current pending claims is provided below and supersedes all previous claims listing(s). No new matter has been added.

1. (Previously Presented) A multicast packet duplication system for multicast packets containing at least multicast address data, comprising:

an input port configured to receive a packet;

a pointer table having a width comprising a plurality of entries coupled to a linked-list table; and

a plurality of output ports configured to output the packet, wherein

a number of duplications of the packet for each of at least some of the plurality of output ports is controlled by descriptors arranged in the linked-list table and is duplicated on a per port basis by transmitting the packet to at least some of the plurality of output ports that are specified in at least some of the descriptors for duplication rather than by transmitting the packet, which has been received at the input port, to all of the plurality of output ports, in which the multicast packet duplication system is configured for improving a size of memory utilized by the multicast packet duplication system by using at least some of the descriptors

rather than by expanding physical memory to cover all possible duplication requests,

at least one of the descriptors is shared among multiple output ports of the plurality of output ports, and

an encoding format for the descriptors includes at least one of:

a contiguous range encoding that includes a starting indicator and an ending indicator for a first set of the descriptors within the contiguous range;

a non-contiguous range encoding that includes information or data of a most significant bit (MSB) portion of an indicator; and

a discrete encoding that includes a first indicator and a second indicator.

2. (Currently Amended) The multicast packet duplication system of claim 1, wherein each of the number of duplications is coupled to a Virtual Local Area Network (VLAN).

3. (Cancelled)

4. (Currently Amended) The multicast packet duplication system of claim 1, wherein the descriptors arranged in the linked-list table include at least one shared descriptor.

5. (Cancelled)

6. (Currently Amended) The multicast packet duplication system of claim 1, wherein each of the plurality of entries corresponds to one of the plurality of output ports.

7. (Currently Amended) The multicast packet duplication system of claim 1, wherein the contiguous range encoding includes a starting Virtual Local Area Network (VLAN) indicator and an ending VLAN indicator.

8. (Currently Amended) The multicast packet duplication system of claim 1, wherein the non-contiguous range encoding includes a most significant bit (MSB) portion of a Virtual Local Area Network (VLAN) indicator and a bitmap decoded from a least significant (LSB) portion of the VLAN indicator.

9. (Currently Amended) The multicast packet duplication system of claim 1, wherein the discrete encoding includes a first Virtual Local Area Network (VLAN) indicator and a second VLAN indicator.

10-20. (Cancelled)

21. (Previously Presented) A multicast packet duplication system for multicast packets containing at least multicast address data, comprising:

an input port configured to receive a packet;

a pointer table having a width comprising a plurality of entries coupled to a linked-list table; and

a plurality of output ports configured to output the packet, the plurality of output ports being coupled to one or more Virtual Local Area Networks (VLAN), wherein

the linked-list table having entries that comprises at least either multicast descriptors or pointers to multicast descriptors

the multicast descriptors comprising at least multicast VLAN descriptors or pointers to multicast VLAN descriptors, wherein

a number of distributions of the multicast packet for an output port for distribution of the multicast packet is controlled by information stored in either the multicast descriptors or multicast VLAN descriptors and is distributed on a per port basis by distributing the number of distributions on at least one of the plurality of the output ports that is specified in the multicast descriptors rather than by distributing the packet, which has been received at the input port, on all of the plurality of output ports,

at least one of the multicast descriptors or the multicast VLAN descriptors is shared among multiple output ports of the plurality of output ports, and

an encoding format of the multicast VLAN descriptors or the multicast descriptors includes at least one of:

a contiguous range encoding that includes a starting VLAN indicator and an ending VLAN indicator for a first set of the multicast descriptors or the multicast VLAN descriptors within the contiguous range;

a non-contiguous range encoding that includes information or data of a most significant bit (MSB) portion of a VLAN indicator; and

a discrete encoding that includes a first VLAN indicator and a second VLAN indicator.

22. (Cancelled)

23. (Currently Amended) The multicast packet duplication system of claim 21, wherein said multicast descriptors also include a multicast packet time to live field.

24. (Currently Amended) The multicast packet duplication system of claim 21, wherein said multicast Virtual Local Area Network (VLAN) descriptors contain a plurality of entries each describing the multicast packet distribution to a different VLAN.

25. (Previously Presented) A multicast packet duplication system for multicast packets containing at least multicast address data, comprising:

an input port configured to receive a packet;

a pointer table having a width comprising a plurality of entries coupled to a linked-list table;

a plurality of output ports configured to output the packet, the plurality of output ports being coupled to one or more Virtual Local Area Networks (VLAN), wherein

the linked-list table having entries that comprises at least either multicast descriptors or pointers to multicast descriptors; and

the multicast descriptors comprising one or more multicast VLAN descriptors or one or more pointers to the one or more multicast VLAN descriptors, wherein

a number of distributions of the multicast packet and an output port distribution of the multicast packet is controlled by information stored in either the multicast descriptors or the one or more multicast VLAN descriptors and is distributed on a per port basis by distributing the number of distributions on at least one of the plurality of the output ports that is specified in the multicast descriptors rather than by distributing the packet, which has been received at the input port, on all of the plurality of output ports,

at least one of the one or more multicast VLAN descriptors or the multicast descriptors is shared among multiple output ports of the plurality of output ports,

the one or more multicast VLAN descriptors comprise a plurality of entries each describing at least some of the number of distributions to a different VLAN, and

an encoding format of the one or more multicast VLAN descriptors includes at least one of:

a contiguous range encoding that includes a starting VLAN indicator and an ending VLAN indicator for a first set of the multicast descriptors or the one or more multicast VLAN descriptors within the contiguous range;

a non-contiguous range encoding that includes information or data of a most significant bit (MSB) portion of a VLAN indicator; and

a discrete encoding that includes a first VLAN indicator and a second VLAN indicator.

26. (Cancelled)

27. (Currently Amended) The multicast packet duplication system of claim 1, wherein a first descriptor in the linked-list table includes a first link to a second descriptor in the linked-list table.

28. (Currently Amended) The multicast packet duplication system of claim 27, wherein the second descriptor in the linked-list table includes a second link to a third descriptor in the linked-list table.

29. (Cancelled)

30. (Previously Presented) The multicast packet duplication system of claim 1, wherein some of the descriptors are configured or programmed for:

a first output port of the plurality of output ports that receives a first number of duplications of the packet; and

a second output port of the plurality of output ports that receives a second number of duplications of the packet, in which the first number is different from the second number.

31. (Previously Presented) The multicast packet duplication system of claim 21, wherein some of the multicast descriptors are configured or programmed for:

duplicating a first number of duplications of the packet on a first output port of the plurality of output ports; and

duplicating a second number of duplications of the packet on a second output port of the plurality of output ports, in which the first number is different from the second number.

32. (Previously Presented) The multicast packet duplication system of claim 25, wherein some of the multicast descriptors are configured or programmed for:

duplicating a first number of duplications of the packet on a first output port of the plurality of output ports; and

duplicating a second number of duplications of the packet on a second output port of the plurality of output ports, in which the first number is different from the second number.